



U.S. FISH AND WILDLIFE SERVICE TRANSMITTAL SHEET

PART 360 FW 4	SUBJECT Engineering and Construction Management Construction Management	RELEASE NUMBER 456
ORIGINATING OFFICE Division of Engineering		DATE 11/22/04

EXPLANATION OF MATERIAL TRANSMITTED:

This revision to the chapter incorporates the directives and guidance specified in Director's Order 171, 05/21/04, Field Support of Construction Inspection. We have updated the chapter to include the Field Inspector's duties and responsibilities and training requirements to ensure high quality construction of field station facilities.


DIRECTOR

FILING INSTRUCTIONS:

Remove:

360 FW 4, 06/10/03, FWM 423 and
Director's Order 171, 05/21/04

Insert:

360 FW 4, 11/22/04, FWM 456

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4.1 What is the objective of this program? To manage and inspect construction projects to ensure Service facilities are built as designed.

4.2 What are the authorities for this program?

A. 485 DM 24 (Contractor Safety and Health). Specifies the Department of the Interior (DOI) requirement to use Federal Acquisition Regulations in preparing and enforcing safety and health requirements for contractors within Service construction contracts. The applicable safety contract clause for Service construction projects is the Code of Federal Regulations (48 CFR), Federal Acquisition Regulation (FAR) Accident Prevention Clause 52.236-13, and, when appropriate, Alternate I (see paragraph 4.5B). The FAR provides the rationale for using Alternate I and requires the contractor to submit and have in place a safety plan before construction activities begin when the contract involves work of a hazardous nature (e.g., explosives, demolition, hazardous wastes, derricks/cranes) or when the Government technical representatives advise that special safety precautions are appropriate.

B. 29 CFR 1926 (Safety and Health Regulations for Construction) and 29 CFR 1910 (Occupational Safety and Health Standards). The applicable safety standards to which a contractor must adhere are OSHA's Safety and Health Regulations for Construction (29 CFR 1926) and General Industry (29 CFR 1910). Additionally, the contractor must abide by any applicable State and local safety/health/sanitation/construction codes and standards. If OSHA regulations and other State or local standards conflict, the more stringent will govern.

C. 29 CFR 1960 (Basic Program Elements for Federal Employee Occupational Safety and Health Programs and Related Matters). Subpart D provides general provisions for the conduct of pre-occupancy inspections of Service facilities and is the basis for such inspections specified in 485 DM 6.

4.3 What definitions apply to this chapter? In addition to the definitions below, the definitions in 360 FW 1 and 2 apply to this chapter.

A. Change Order. Used to make changes in work requirements within the general scope of the contract. The Contracting Officer (CO) can make a unilateral modification to a contract under authority of the

"changes" clause, with price and time changes negotiated at a later date as necessary. A bilateral modification (after receiving and negotiating a proposal from the construction contractor) is a "supplemental agreement."

B. Construction Inspector (CI). A Service employee (or contracted inspector) who inspects construction sites for the Government or who serves as a site representative at a construction site to ensure that all construction complies with contract requirements. The CI has knowledge of and experience with a wide variety of construction standards and inspection procedures. Typically, the CI works on large, complicated construction projects (e.g., visitor centers, hatchery buildings, or large dikes or dams) with significant electro-mechanical, HVAC, or structural complexity, but the CI also may assist the Field Inspector on smaller projects. The Contracting Officer will appoint the CI in writing before construction begins. The Service's Construction Inspection Handbook (SCIH) lists the CI's specific responsibilities and duties.

C. Construction Management and Inspection. Typically includes on-site inspection of the contractor's construction activities and the preparation of daily inspection reports to ensure compliance with the contract; review of contractor progress schedules; review of product literature and shop drawings that the contractor submits; evaluation of modifications proposed by the contractor; preparation of documents for change orders including, but not limited to, sketches, drawings, specifications, and maintenance manuals; review of as-built drawings for any projects when construction is complete; and review/approval of Value Engineering proposals that the contractors submit.

D. Contracting Officer (CO). A Service employee who has the authority to enter into, administer, or terminate contracts. The CO is responsible for ensuring performance of all necessary actions for effective contract administration, ensuring compliance with terms of the contract, and safeguarding the interests of the Government.

E. Contracting Officer's Representative (COR). A Service employee that the CO officially appoints as an authorized representative of the Government to make certain commitments, such as accepting or rejecting a contractor's work and providing technical/administrative support throughout the contract administration process.

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The SCIH lists specific responsibilities and duties of the COR.

F. Field Inspector (FI). On small, straightforward construction jobs, the COR/CI may direct field station personnel to observe and monitor construction activities. We refer to these personnel as Field Inspectors so they are not confused with the professionally trained CI. Under the guidance of the COR/CI, FIs inspect and observe such construction activities as building framing, concrete work, and earthwork/excavation. The CO will appoint the FI in writing before construction begins. The SCIH lists the FI's responsibilities and duties.

G. Force Account Construction. Construction, rehabilitation, repair, or maintenance work that Service field station personnel accomplish. See Section 4.6 for more information on Force Account construction.

H. Pre-Occupancy Inspection. An on-site physical survey of a space scheduled for occupancy by Service employees or members of the public. The purpose of the inspection is to address hazards, deficiencies, or violations of OSHA regulations and other applicable standards, such as the National Fire Protection Association's Life Safety Code, National Electrical Code, etc.

4.4 What are the training requirements for the Contracting Officer Representative (COR), Construction Inspector (CI), and Field Inspector (FI)? The Department of the Interior Acquisition Regulation (DIAR) 1401.670-3, Certification Requirements, specifies training requirements for the COR. The DIAR training requirements also apply to any individual acting as an authorized Service representative in the administration of the contract, including the CI. Before beginning their construction inspection duties, the CORs/CIs/FIs must successfully complete the Service's Construction Safety Training Course (SAF 4000), which the National Conservation Training Center (NCTC) offers online, or one of the following OSHA Training Institute/Education Center's construction safety courses: Nos. 200, 200A, 500, or 510. Contact the Regional or California/Nevada Operations Office (CNO) Safety Office for additional information about these courses. The SCIH includes additional information about training and reference materials available for the FI.

4.5 What are the requirements and procedures for construction contract administration, management, and inspection? Adherence to the contract administration, management, and inspection procedures

detailed below will ensure that Service projects are constructed in accordance with engineering designs and specifications to achieve a quality structure or facility.

A. Safety contract language. The CO will incorporate safety contract language into the contract using FAR references (e.g., Accident Prevention Clause 52.236-13) and special provisions. An example of general language may include the following: "The contractor is responsible for ensuring that all on-site activities, equipment, and facilities constructed by the contractor, subcontractor, or supplier conform fully with the standards of the Department of Labor, Occupational Safety and Health Administration (OSHA) 29 CFR 1926 and 1910 and DOI and Service policies. The contractor, subcontractor, and suppliers must not require any employee working in the performance of the contract to engage in on-site work under conditions that are unsanitary, hazardous, or dangerous to an employee's health or safety, whether such conditions are addressed herein or in referenced codes, standards, or statutes."

(1) Safety contract language should also specify the contractor's responsibility for accident reporting/investigation and include the rights of Federal, State, and local agencies to conduct investigations if needed. The CO will incorporate such safety clause language in the contract as necessary for the construction job.

(2) In addition, the CO should consider a contractor's safety record before awarding a contract. COs can evaluate a contractor's past safety performance by accessing inspection and accident investigation data available from the OSHA website. The CO should consult with the Regional/CNO Safety Office staff for guidance in obtaining and determining the applicability of the data collected.

B. Safety Plans. In complying with Alternate I of FAR Clause 52.236-13 for all contracts involving work of a hazardous nature (e.g., explosives, demolition, hazardous wastes, scaffolding, derricks/cranes), or when the Government technical representatives advise that special safety precautions are appropriate, the contractor will submit a safety plan for review and acceptance by the Service before beginning work. The CO/COR and the Regional/CNO Safety Office will work together to determine the need for and evaluate the plan. The CO will consult with the Service's project engineer when determining the complexities and hazards of the project. The scope of a contractor's safety plan will depend on the project's complexities/hazards, and may extend to the

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development of a complete on-site safety program. At a minimum, the plan must provide procedures for controlling hazards associated with the major phases of the work. The CO/COR will notify the contractor when they accept the safety plan, or if the plan needs revisions. Acceptance of the contractor's safety plan does not relieve the contractor of the responsibility to comply with all contract requirements, applicable laws, and regulations.

C. Planning and Start-up. Only the CO can obligate contract funds, including starting, changing, modifying, or suspending work. The CO delegates certain responsibilities in writing to the COR/CI to ensure the contractor meets all requirements of the contract. The COR makes recommendations to the CO on acceptance or rejection of work, contract modifications, etc. 360 FW 2 (Project Planning and Engineering Design) provides specific guidance on construction project planning and the engineering design process.

D. Preconstruction Conference. The CO will hold a preconstruction conference with the contractor (either on site or by telephone) for all projects of \$100,000 or more, and at the discretion of the CO, for those less than \$100,000. The CO will insert FAR Clause 52.236-26 in solicitations for construction contracts meeting these parameters. The CO will notify the COR/CI/FI and Regional/CNO Safety Office of the date, time, and location of the scheduled conference and determine who needs to attend. During the conference, the contractor must address respective project requirements, including safety provisions pertinent to the work under contract. The CO will provide FWS Form 3-2199 (Preconstruction Safety Checklist) to the contractor before the conference. The CO/COR uses the checklist to record the safety portion of the conference (also see Exhibit 7.7 of the Construction Inspection Handbook).

E. Inspection. The CI/FI is the Government's representative at a construction site and is responsible for reporting to the COR all work that does not comply with contract documents. The CI/FI will monitor, by inspections, the contractor's performance to determine if progress is meeting contract requirements. The SCIH describes the duties and responsibilities of the CI/FI and provides detailed instructions for the technical inspection of construction projects. The CO authorizes the COR to reject or disapprove obviously defective or poor materials, equipment, and faulty workmanship, and to require the contractor to correct or replace it at no cost to the Government. The CI/FI is responsible for

notifying the COR when an unauthorized employee attempts to order a change in the contract.

(1) The CO/COR/CI will determine the frequency and method for project inspection depending on the complexity of the project, as well as other factors. The lack of project inspections due to unavailability of Government personnel or funding limitations does not relieve the contractor of compliance with applicable construction standards and safety requirements. However, the COR/CI/FI should normally conduct an inspection before construction activity takes place that permanently covers up any phase of work. The COR/CI/FI should document such inspections in writing. Different types of inspection records include daily logs; record of construction activity through photographs or videotapes; or other reports, such as construction progress reports, safety/accident reports, and final acceptance reports. The Regional/CNO Engineering Office or Division of Engineering may develop and use special report forms as necessary.

(2) As required by the Public Buildings Amendments Act of 1988, the Service permits inspections by State and local building officials during construction or alteration of a facility. The COR/CI will coordinate these inspections with the project's construction schedule. State or local governments must provide the Regional/CNO Engineering Office or Division of Engineering reasonable notice of their intent to conduct inspections.

(3) Service safety personnel and representatives from Federal, State, and local safety enforcement agencies are authorized to visit job sites to conduct inspections, investigations, and interviews. The contractor, CO, COR, CI, and FI will cooperate with authorized personnel and representatives during any evaluation of a contractor's compliance with applicable safety and health laws and regulations. Specifically, the CI/FI must advise the Regional/CNO Safety Manager of all State or Federal OSHA on-site inspections/investigations within 1 working day of notification; or if that is not possible, at the time of, or as soon as possible after, the inspection/investigation.

(4) Although the contractor is directly responsible for the health and safety of his/her employees on the job site as required by applicable contract clauses and specific provisions, the COR/CI/FI is responsible for ensuring that Government employees and official Government visitors adhere to the contractor's safety requirements whenever they are on the job site. During construction, if

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the CI/FI observes a condition or practice that constitutes an imminent danger to contractor employees, Service personnel, visitors, and/or property, the CI/FI will advise the contractor to implement corrective action to bring the dangerous condition into compliance. If not corrected, the CI/FI must immediately notify the CO/COR of the observed hazardous condition or practice. If a hazard is an imminent danger, the CI/FI can ask the CO to issue a "Suspension of Work" per FAR 52.242-14. The contractor is responsible for any delay or cost resulting from a safety-related suspension of work. The CO/COR/CI/FI should direct any questions about safety issues to the Regional/CNO Safety Manager.

F. Accident/Incident. The COR/CI/FI will follow guidance provided in Section 4.3 of the SCIH for contractor and/or construction project-related accidents/incidents. The COR/CI/FI will record all significant actions, oral or written, regarding an accident/incident in the Daily Log.

G. Archeological Material. If the contractor encounters unanticipated archeological materials during construction, the CI/FI will notify the COR and the Regional/CNO Historic Preservation Officer (RHPO). The COR notifies the CO, who will suspend work on that part of the project until the RHPO evaluates the materials, recovers appropriate data, and makes a determination about next steps. For more information about our policy and responsibilities for archaeological material, see 614 FW 1.

H. Payments. The CO will make all payments and retainages according to FAR requirements.

I. Submittals. Before or during construction, the contractor will provide submittals, such as Schedule of Construction, Lump Sum Breakdown, Shop Drawings, Descriptive Data, Proposed Changes, etc., to the CO. The CO/COR accepts or rejects these items based on compliance with contract requirements.

J. Solicitation Amendments. Use solicitation amendments to correct inadvertent omissions or errors in the specifications and engineering drawings. In such cases, the COR must promptly notify the CO and provide the requested changes in writing to the CO. The CO must amend the solicitation to address the noted changes and provide the information to all prospective contractors.

K. Contract Modifications. Contract modifications allow the CO to change an ongoing construction contract for one of three possible reasons. For all three scenarios described below, the CO issues a Request for

a Cost Proposal to the contractor, and the contractor must estimate the costs and time for the change. Before issuing the modification, the CO will need a detailed description of the desired change from the COR/CI along with a justifiable and detailed cost estimate, time schedule, and funding to support the change. The COR/CI will put together necessary documentation required by the CO so that the COR/CI can advise the CO on technical matters related to the proposed change. The COR/CI will not consult the contractor for pricing information nor negotiate the modification without the CO's approval.

(1) The Government wants a change to correct an error or omission to the contract documents.

(2) The contractor requests a change because he/she has encountered an error in the contract documents, or because he/she wants the Government to consider an alternate solution for a particular aspect of the contract. The CO may require that the contractor amend the safety plan because of the contract modifications.

(3) An unforeseen condition will require a different level of effort on the part of the contractor than that which was bid.

L. Final Inspection and Acceptance. Final inspection is an important aspect of contract administration, since warranty clauses may not exist in contracts for some construction and rehabilitation projects. If they do exist, their coverage may not be as comprehensive as the Government's rights under other clauses of the contract. Before completing a final inspection, the COR/CI will prepare and provide the contractor a "punch list" (refer to SCIH, Exhibit 7.2 for punch list example) of items requiring correction. Give the contractor adequate time to complete the punch list items before the final inspection. The purpose of the final inspection is to determine whether or not the work accomplished and materials/equipment furnished meet specifications. The COR will verify that the construction project is complete and the contract specifications are fulfilled in the final inspection and submit a statement of completion to the CO. The COR/CI will complete a final inspection before the contract expires. After final inspection and acceptance, the contractor will correct any remaining punch list items within the time limit approved by the CO.

(1) For structures involving occupancy considerations by Service employees or members of the public, a safety and health professional or other qualified person (e.g., project engineer, architect, etc.) will conduct a pre-occupancy inspection for safety and health issues as either a separate activity or as part of the final

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inspection. Based on the inspection findings, the responsible inspector will recommend occupancy of the space or identify corrective actions needed to bring the space into a safe and healthful condition before it is occupied (485 DM 6 and 29 CFR 1960.34).

(2) The contracting team will evaluate contractor performance and prepare a Performance Report using SF-1420, (Performance Evaluation – Construction Contracts) for contracts that are more than \$500,000, and for all contracts over \$10,000 terminated for default (refer to FAR 36.201, “Evaluation of Contractor Performance”).

M. Warranty Follow-Up. The CO sometimes includes the Warranty of Construction Clause (FAR 52.246-21) in contracts. After final inspection and acceptance, the COR/CI coordinates follow-up on the warranty. The COR/CI typically accomplishes a follow-up inspection to judge the condition/utility of the project after the contract is completed, but before the contract's 1-year warranty period expires.

N. References.

(1) Service Construction Inspection Handbook (SCIH).

(2) OSHA's Construction Safety Standards (29 CFR 1926), and General Industry Standards (29 CFR 1910).

4.6 What are the requirements and procedures for Force Account construction?

A. Design and Construction. All Force Account project designs must meet applicable codes. If approved by Regional/CNO Office management, field station managers may oversee construction, maintenance, repair, and equipment modification projects requiring minor or limited engineering knowledge. Field station personnel must adhere to safe construction practices to complete projects of acceptable quality.

B. Review and Approval. The Regional/CNO Engineer must concur with project plans and specifications of any Force Account project exceeding \$50,000 in value before work begins. To determine the adequacy of engineering planning, needs, and the feasibility of the proposed method for accomplishing the work, the Regional/CNO Engineer, in coordination with the Regional/CNO Safety Manager, must review and approve **in writing** all proposed Force Account work for projects with:

(1) Significant structural requirements (for example, building extensions, observation towers, pole barns).

(2) Significant electrical systems or environmental concerns.

(3) Hydrological considerations [e.g., any artificial barrier, including water control structures, which impounds or diverts water and (1) is 25 feet or more in height, or (2) is 6 feet or more in height and impounds at least 50 acres-feet of water].

(4) Critical life safety code factors.

C. Construction Safety. Field station personnel will perform Force Account construction work in conformance with safety and health standards established by OSHA, DOI, and Service policies, and State and local requirements.

D. Inspection. The responsible Regional/CNO Engineering Office will inspect Force Account construction that has potential structural deficiencies or safety considerations at determined stages of the work or as frequently as necessary to ensure compliance with designs, specifications, and safety requirements. The field station is responsible for notifying the Regional/CNO Engineering Office about the projects that require inspection. The Regional/CNO Engineering Office also conducts a pre-occupancy inspection for safety and health issues as required for occupied structures (see Section 4.5L).